

Notice of Allowability

Application No.

10/624,417

Examiner

Courtney Thomas

Applicant(s)

WU ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the preliminary amendment filed 10/14/03.
2. ☒ The allowed claim(s) is/are 1-54.
3. ☒ The drawings filed on 22 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>11/01/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-54 are allowed.
2. The following is an examiner's statement of reasons for allowance:
3. **As per claims 1 and 22 and dependent claims 2-11 and 23-28 respectively**, the examiner found no reference in the prior art that disclosed or made obvious a method (or computer program) for generating a basis material decomposition conversion table or function comprising the steps of: a) generating a set of projection values for each of two or more energy spectra using one or more component characteristics and attenuation coefficients to simulate responses of an X-ray imaging system to a plurality of lengths of the basis materials; and b) generating at least one of a table and a function from the sets of projection values and the one or more component characteristics as recited in independent claims 1 and 22.
4. **As per claims 12 and 29 and dependent claims 13-21 and 30-38 respectively**, the examiner found no reference in the prior art that disclosed or made obvious a method (or computer program) for generating a map of a basis material, comprising: a) generating a line-integral projection set using a first projection set, a second, projection set, and at least one basis material decomposition table or function; and b) reconstructing the line-integral projection set to form a map as recited in independent claims 12 and 29.
5. **As per claim 39 and dependent claims 40-43**, the examiner found no reference in the prior art that disclosed or made obvious an X-ray image analysis system comprising a computer system configured to generate a set of projection values for each of two or more energy spectra using attenuation coefficients for a pair of basis materials and one or more component

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characteristics of at least one of an X-ray source, X-ray filter and detector to simulate responses of the detector to a plurality of lengths of the basis materials, and to generate at least one of a table and a function from the sets of projection values and the one or more component characteristics as recited in independent claim 39.

6. **As per claim 44 and dependent claims 45-49**, the examiner found no reference in the prior art that disclosed or made obvious an X-ray image analysis system comprising a computer system configured to generate a line-integral projection set using a first projection set, a second projection set, and at least one basis material decomposition table or function and to reconstruct a line-integral projection set to form a map as recited in independent claim 44.

7. **As per claim 50 and dependent claims 51-54**, the examiner found no reference in the prior art that disclosed or made obvious an X-ray image analysis system a computer system configured to receive a set of projection data; means for simulating responses of a detector to a plurality of lengths of a pair of basis materials at two or more energy spectra to generate a set of projection values for each of two or more energy spectra; and means for generating a basis material decomposition table or function from the sets of projection values, as recited in independent claim 50.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Courtney Thomas CT
Examiner
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DAVID V. BRUCE
PRIMARY EXAMINER